

CLAIMS

1. A method of forming a relational database, comprising
mapping a corresponding unique key to each tree component of an Extensible Markup
Language (XML) document, the mapping including forming each of the corresponding unique
5 keys as associated tree strings, each of the associated tree strings including in corresponding
hierarchical order derived from the tree components a parent, a child, and a descriptor, the parent
being an element, the child being an attribute, and the descriptor being text;

assigning a qualifier to the child as warranted that has a possibility of repeating with
another child sharing the parent in common; and

10 assigning a further qualifier to the descriptor as warranted that has a possibility of
repeating with another descriptor sharing the child in common.

2. A method as in claim 1, wherein the descriptor is selected from a group consisting of
15 parsed character data and text signifying an encounter with a CDATA section, the CDATA
section being a text node based on which a parser ignores any XML parsing instructions
encountered within the text node.

3. A method as in claim 1, further comprising reconstructing the XML document to have the
tree components based on the mapping, the reconstructing including interrogating each data row
of the tree strings, and creating appropriate objects that correspond to each of the data rows.

4. A relational database structure, comprising

a database that contains corresponding unique keys mapped to tree components of an Extensible Markup Language (XML) document, each of the corresponding unique keys being associated with tree strings, each of the associated tree strings including in corresponding

5 hierarchical order derived from the components a parent, a child, and a descriptor, the parent being an element, the child being an attribute, and the descriptor being text;

a qualifier assigned to the child as warranted that has a possibility of repeating with another child sharing the parent in common; and

10 a further qualifier assigned to the descriptor as warranted that has a possibility of repeating with another descriptor sharing the child in common.

5. A relational database as in claim 4, wherein the descriptor is selected from a group consisting of parsed character data and text signifying an encounter with a CDATA section, the CDATA section being a text node based on which a parser ignores any XML parsing instructions encountered within the text node.

15 6. A relational database as in claim 4, wherein the tree strings are arranged to enable reconstruction of the XML document so as to have the tree components based on the corresponding unique keys mapped to the tree components, the reconstruction including an interrogation of each data row of the tree strings and a creation of appropriate objects that

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$$\begin{array}{ccccccc} \text{supersymmetry} & \text{gauge theory} & \text{gravity} & \text{string theory} & \text{M-theory} & \text{AdS/CFT} & \text{duality} \\ \text{[1]} & \text{[2]} & \text{[3]} & \text{[4]} & \text{[5]} & \text{[6]} & \text{[7]} \\ \text{[8]} & \text{[9]} & \text{[10]} & \text{[11]} & \text{[12]} & \text{[13]} & \text{[14]} \\ \text{[15]} & \text{[16]} & \text{[17]} & \text{[18]} & \text{[19]} & \text{[20]} & \text{[21]} \\ \text{[22]} & \text{[23]} & \text{[24]} & \text{[25]} & \text{[26]} & \text{[27]} & \text{[28]} \\ \text{[29]} & \text{[30]} & \text{[31]} & \text{[32]} & \text{[33]} & \text{[34]} & \text{[35]} \\ \text{[36]} & \text{[37]} & \text{[38]} & \text{[39]} & \text{[40]} & \text{[41]} & \text{[42]} \\ \text{[43]} & \text{[44]} & \text{[45]} & \text{[46]} & \text{[47]} & \text{[48]} & \text{[49]} \\ \text{[50]} & \text{[51]} & \text{[52]} & \text{[53]} & \text{[54]} & \text{[55]} & \text{[56]} \\ \text{[57]} & \text{[58]} & \text{[59]} & \text{[60]} & \text{[61]} & \text{[62]} & \text{[63]} \\ \text{[64]} & \text{[65]} & \text{[66]} & \text{[67]} & \text{[68]} & \text{[69]} & \text{[70]} \\ \text{[71]} & \text{[72]} & \text{[73]} & \text{[74]} & \text{[75]} & \text{[76]} & \text{[77]} \\ \text{[78]} & \text{[79]} & \text{[80]} & \text{[81]} & \text{[82]} & \text{[83]} & \text{[84]} \\ \text{[85]} & \text{[86]} & \text{[87]} & \text{[88]} & \text{[89]} & \text{[90]} & \text{[91]} \\ \text{[92]} & \text{[93]} & \text{[94]} & \text{[95]} & \text{[96]} & \text{[97]} & \text{[98]} \\ \text{[99]} & \text{[100]} & \text{[101]} & \text{[102]} & \text{[103]} & \text{[104]} & \text{[105]} \end{array}$$